

## § 572.191

(iv) Drawing No. 180-3000, Upper Torso Assembly;

(v) Drawing No. 180-3005, Washer, Clamping;

(vi) Drawing No. 9000021, Screw, SHCS  $\frac{3}{8}$ -16 x 1 NYLOK;

(vii) Drawing No. 900005, Screw, SHCS  $\frac{1}{4}$ -20 x  $\frac{5}{8}$  NYLOK;

(viii) Drawing No. 180-4000, Lower Torso Assembly Complete;

(ix) Drawing No. 180-5000-1, Complete Leg Assembly, Left;

(x) Drawing No. 180-5000-2, Complete Leg Assembly, Right;

(xi) Drawing No. 180-6000-1, Arm Assembly Left Molded;

(xii) Drawing No. 180-6000-2, Arm Assembly Right Molded; and,

(xiii) Drawing No. 180-9000, SID-IIsD Headform Assembly.

(3) A procedures manual entitled, "Procedures for Assembly, Disassembly, and Inspection (PADI) of the SID-IIsD Side Impact Crash Test Dummy, July 1, 2008," incorporated by reference in § 572.191;

(4) SAE Recommended Practice J211, Rev. Mar 95 "Instrumentation for Impact Tests—Part 1—Electronic Instrumentation"; and,

(5) SAE J1733 of 1994-12, "Sign Convention for Vehicle Crash Testing."

(b) The Director of the Federal Register approved the materials incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the materials may be inspected at the Department of Transportation, Docket Operations, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, telephone (202) 366-9826, and at the National Archives and Records Administration (NARA), and in electronic format through Regulations.gov. For information on the availability and inspection of this material at NARA, call 202-741-6030, or go to:

[http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html). For information on the availability and inspection of this material at Regulations.gov, call 1-877-378-5457, or go to: <http://www.regulations.gov>.

(c) The incorporated materials are available as follows:

(1) The Parts/Drawings List, Part 572 Subpart V, SID-IIsD, July 1, 2008, re-

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ferred to in paragraph (a)(1) of this section, the package entitled Drawings and Specifications for SID-IIsD Small Female Crash Test Dummy, Part 572 Subpart V, July 1, 2008, referred to in paragraph (a)(2) of this section, and the PADI document referred to in paragraph (a)(3) of this section, are available in electronic format through [www.Regulations.gov](http://www.Regulations.gov) and in paper format from Leet-Melbrook, Division of New RT, 18810 Woodfield Road, Gaithersburg, MD 20879, (301) 670-0090.

(2) The SAE materials referred to in paragraphs (a)(4) and (a)(5) of this section are available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096, telephone 1-877-606-7323.

[71 FR 75370, Dec. 14, 2006, as amended at 74 FR 29894, June 23, 2009]

### § 572.191 General description.

(a) The SID-IIsD Side Impact Crash Test Dummy, small adult female, is defined by:

(1) The drawings and specifications contained in the "Drawings and Specifications for SID-IIsD Small Female Crash Test Dummy, Part 572 Subpart V, July 1, 2008," which includes the technical drawings and specifications described in Drawing 180-0000, the titles of which are listed in Table A;

TABLE A

Component assembly	Drawing number
6 Axis Head Assembly .....	180-1000
Neck Assembly .....	180-2000
Upper Torso Assembly .....	180-3000
Clamping Washer .....	180-3005
Lower Torso Assembly Complete .....	180-4000
Complete Leg Assembly, Left .....	180-5000-1
Complete Leg Assembly, Right .....	180-5000-2
Arm Assembly Left Molded .....	180-6000-1
Arm Assembly Right Molded .....	180-6000-2

(2) The "Parts/Drawings List, Part 572 Subpart V, SID-IIsD," dated July 1, 2008 and containing 7 pages,

(3) A listing of available transducers-crash test sensors for the SID-IIsD Side Impact Crash Test Dummy, 5th percentile adult female, is shown in drawing 180-0000 sheet 2 of 5, dated July 1, 2008,

(4) "Procedures for Assembly, Disassembly, and Inspection (PADI) of the

SID-IIIsD Side Impact Crash Test Dummy, July 1, 2008," and,

(5) Sign convention for signal outputs reference document SAE J1733 Information Report, titled "Sign Convention for Vehicle Crash Testing," dated July 12, 1994, incorporated by reference in § 572.200(k).

(b) Exterior dimensions of the SID-IIIsD Small Adult Female Side Impact Crash Test Dummy are shown in drawing 180-0000 sheet 3 of 5, dated July 1, 2008.

(c) Weights and center of gravity locations of body segments are shown in drawing 180-0000 sheet 4 of 5, dated July 1, 2008.

(d) Adjacent segments are joined in a manner such that, except for contacts existing under static conditions, there is no additional contact between metallic elements of adjacent body segments throughout the range of motion.

(e) The structural properties of the dummy are such that the dummy conforms to this Subpart in every respect before use in any test similar to that set forth in Standard 214, Side Impact Protection (49 CFR 571.214).

[71 FR 75370, Dec. 14, 2006, as amended at 74 FR 29895, June 23, 2009]

#### § 572.192 Head assembly.

(a) The head assembly consists of the head (180-1000) and a set of three (3) accelerometers in conformance with specifications in 49 CFR 572.200(d) and mounted as shown in drawing 180-0000 sheet 2 of 5. When tested to the procedure specified in paragraph (b) of this section, the head assembly shall meet performance requirements specified in paragraph (c) of this section.

(b) *Test procedure.* The head shall be tested according to the procedure specified in 49 CFR 572.112(a).

(c) *Performance criteria.*

(1) When the head assembly is dropped from either the right or left lateral incline orientations in accordance with procedure in § 572.112(a), the measured peak resultant acceleration shall be between 115 g and 137 g;

(2) The resultant acceleration-time curve shall be unimodal to the extent that oscillations occurring after the main acceleration pulse shall not exceed 15% (zero to peak) of the main pulse;

(3) The longitudinal acceleration vector (anterior-posterior direction) shall not exceed 15 g.

#### § 572.193 Neck assembly.

(a) The neck assembly consists of parts shown in drawing 180-2000. For purposes of this test, the neck assembly is mounted within the headform assembly (180-9000) as shown in Figure V1 in appendix A to this subpart. When subjected to the test procedure specified in paragraph (b) of this section, the neck-headform assembly shall meet the performance requirements specified in paragraph (c) of this section.

(b) *Test procedure.*

(1) Soak the assembly in a test environment as specified in 49 CFR 572.200(j);

(2) Attach the neck-headform assembly, as shown in Figure V2-A or V2-B in appendix A to this subpart, to the 49 CFR Part 572 pendulum test fixture (Figure 22, 49 CFR 572.33) in either the left or right lateral impact orientations, respectively, so that the midsagittal plane of the neck-headform assembly is vertical and at right angle ( $90 \pm 1$  degrees) to the plane of motion of the pendulum longitudinal centerline;

(3) Release the pendulum from a height sufficient to achieve a velocity of  $5.57 \pm 0.06$  m/s measured at the center of the pendulum accelerometer, as shown in 49 CFR Part 572 Figure 15, at the instant the pendulum makes contact with the decelerating mechanism;

(4) The neck flexes without the neck-headform assembly making contact with any object;

(5) Time zero is defined as the time of initial contact between the pendulum mounted striker plate and the pendulum deceleration mechanism;

(6) Allow a period of at least thirty (30) minutes between successive tests on the same neck assembly.

(c) *Performance Criteria.*

(1) The pendulum deceleration pulse is characterized in terms of decrease in velocity as obtained by integrating the pendulum acceleration output from time zero:

Time(ms)	Peakpendulumdelta-V(m/s)
10.0 .....	-2.20 to -2.80
15.0 .....	-3.30 to -4.10